

AMENDMENTS TO THE CLAIMS

Claim 21 (previously added): A virion-constrained nanoparticle comprising a non-plant virion coat protein shell surrounding a nanoparticle of non-viral origin selected from the group consisting of organic, inorganic and organo-metallic materials.

Claim 22 (previously amended): The virion-constrained nanoparticle according to claim 21, wherein said nanoparticle of non-viral origin comprises an organic material.

Claim 23 (previously added): The virion-constrained nanoparticle according to claim 21, wherein said nanoparticle of non-viral origin comprises an inorganic material.

Claim 24 (previously added): The virion-constrained nanoparticle according to claim 21, wherein said nanoparticle of non-viral origin comprises an organo-metallic material.

Claim 25 (previously amended): The virion constrained nanoparticle according to claim 21, wherein said virion constrained nanoparticle comprises particles having dimensions substantially in the nanometer range and which comprise a collection of atoms and/or molecules ranging in number from 1 to the number that can fit inside the volume of the selected virion whereby the maximum number of atoms and/or molecules in a virion constrained nanoparticle is determined by the size of the nanoparticle and the size of the virion inner cavity.

Claim 26 (amended): A virion constrained nanoparticle according to claim 21, wherein said virion is selected from the group consisting of prokaryotic, protozoan, ~~aukaryotic~~ eukaryotic viruses and virus-like particles, and Bacteriophage and ~~Protozoan~~ various virions.

Claim 27 (previously added): A virion constrained nanoparticle according to claim 26, wherein prokaryotic viruses comprise Plasmaviridae, SSv1 group viruses, Lipothrixviridae,

Cystoviridae, Corticoviridae, Myoviridae, Siphoviridae, Podoviridae, Microviridae, Inoviridae and Leviviridae.

Claim 28 (previously added): A virion constrained nanoparticle according to claim 21, wherein said virion is a eukaryotic invertebrate selected from the group consisting of Poxviridae, Entomopoxviridae, Baculoviridae, Eubaculovirinae, Nudibaculovirinae, Polydnnaviridae, Ichnovirus, Iridoviridae, Bracovirus, Parvoviridae, Flaviviridae, Tagviridae, Bunyaviridae, Rhabdoviridae, Reoviridae, Bimaviridae, Picornaviridae, Tetraviridae and Nadoviridae.

Claim 29 (previously added): A process for producing virion-constrained nanoparticles comprising a non-plant virion coat protein shell surrounding a nanoparticle of non-viral origin comprising the following steps:

- a) providing isolated and substantially purified animal virion coat protein shells containing controllable gates;
- b) incubating the virion coat protein shell in a solution comprising one or more organic, inorganic, and/or organometallic materials under conditions that permit controlled entry of the materials into the virion shell;
- c) adjusting the solution conditions in such a manner that the virion coat protein shell entraps the materials of step b); and
- d) isolating the virion-constrained nanoparticles produced.

Claim 30 (canceled).

Claim 31 (previously added): The process according to claim 29, wherein said nanoparticle of non-viral origin comprises an organic material.

Claim 32 (previously added): The process according to claim 29, wherein said nanoparticle of non-viral origin comprises an inorganic material.

Claim 33 (previously added): The process according to claim 29, wherein said nanoparticle of non-viral origin comprises an organo-metallic material.

Claim 34 (previously added): A process according to claim 29, wherein said virion is selected from the group consisting of prokaryotic, protozoan and eukaryotic viruses and virus-like particles.

Claim 35 (previously added): A process according to claim 34, wherein said prokaryotic viruses comprise Plasmaviridae, SSv1 group viruses, Lipothrixviridae, Cystoviridae, Corticoviridae, Myoviridae, Siphoviridae, Podoviridae, Microviridae, Inoviridae and Leviviridae, and Bacteriophage, Protozoan, algal and fungal virions.

Claim 36 (previously added): A process according to claim 29, wherein the adjustment of one or more conditions is selected from the group consisting of changes in pH, changes in ionic strength, the presence of metal ions, and the presence of chelators.

Claim 37 (previously added): A process according to claim 29, wherein said non-viral nanoparticle is an inorganic material selected from the group consisting of metal salts, metal oxides, non-metal oxides, metal chalcogens, non-metal chalcogens, covalent solids, and coordination compounds.

Claim 38 (amended): A process according to claim 29, wherein said non-viral nanoparticle is an organic material selected from the group consisting of polypeptides, glyco-proteins glycoproteins, sweeteners, flavoring agents, drugs and salts thereof.